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VOLUME IV

BEFORE THE ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C.

In the Matter of: )  
 )  
GARY DEVELOPMENT CO., INC. )  
 )  
Respondent. )

Docket No. RCRA-V-W-86-R-45

Courtroom 302  
Lake County Courthouse  
400 Broadway  
Gary, Indiana

Monday, December 17, 1990

The above-entitled matter came on for further  
hearing, pursuant to adjournment, at 2:00 o'clock, p.m.

BEFORE: HONORABLE J.F. GREENE  
Administrative Law Judge

APPEARANCES:

On Behalf of the Complainant, U.S.  
Environmental Protection Agency:

MARC M. RADELL, ESQ.  
U.S. Environmental Protection Agency  
Region V  
230 South Dearborn Street - 5CSTUB3  
Chicago, Illinois 60604

On Behalf of the Respondent:

WARREN D. KREBS, ESQ.  
Parr, Richey, Obremskey & Morton  
121 Monument Circle - Suite 500  
Indianapolis, IN 46204

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I N D E XTESTIMONY

<u>WITNESSES:</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>
DR. TERRY RONALD WEST	809	844		

EXHIBITS

<u>EXHIBIT NUMBER</u>	<u>MARKED</u>	<u>RECEIVED</u>	<u>REJECTED</u>	<u>WITHDRAWN</u>
<u>Respondent's:</u>				
15	808	813		
16	856	857		
17	856	857		

1 THE COURT: This is the matter of Gary  
2 Development Company of Gary, Indiana, a continuation of  
3 Docket Number RCRA-5-W-86-R-45. Let's have a  
4 restatement of appearances by counsel. For the  
5 Government?

6 MR. RADELL: Yes. I'm Marc Radell  
7 representing the U.S. EPA.

8 THE COURT: And who is with you, Mr. Radell?

9 MR. RADELL: Mr. Jonathan Cooper of our RCRA  
10 Enforcement Staff.

11 THE COURT: For Respondent?

12 MR. KREBS: For the Respondent Gary  
13 Development Corporation, Inc., Warren D. Krebs with the  
14 firm of Parr, Richey, Obrebskey & Morton at  
15 Indianapolis, Indiana. With me today at the table is  
16 Larry Hagen, who is a vice-president of Gary  
17 Development.

18 THE COURT: Will there be an addition to the  
19 documents that we have already before we take our first  
20 witness? Is there anything further by way of  
21 documents, Mr. Krebs, before we take your witness? I  
22 don't expect anything from you, but just in case.

23 MR. KREBS: As far as documents to mark?

24 THE COURT: Yes.

1 MR. KREBS: You mean--we might want to mark  
2 just the next witness' background document. I think  
3 that would be around 12. I'm not sure of that.

4 THE COURT: We had a number 14--

5 MR. KREBS: (interrupting) We did?

6 THE COURT: --in our earlier proceeding,  
7 Mr. Krebs. This would be next in order, whatever that  
8 may be. Probably 15.

9 (Whereupon Respondent's  
10 Exhibit 15 was marked for  
11 identification.)

12 THE COURT: Well I think we're ready for  
13 Dr. West.

14 MR. KREBS: Yes.

15 THE COURT: Call your witness.

16 MR. KREBS: Respondent would call Terry West  
17 please.

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1 Whereupon,

2 TERRY RONALD WEST,

3 called as a witness herein, having been duly sworn and  
4 having testified, was examined and testified as  
5 follows:

6 DIRECT EXAMINATION

7 BY MR. KREBS:

8 Q Would you state your name please for the  
9 record?

10 A Terry Ronald West.

11 Q And Mr. West, what is your present  
12 profession?

13 A I am a university professor at Purdue  
14 University, West LaFayette, Indiana.

15 Q And how long have you been a professor at  
16 Purdue University?

17 A I've been on the professorial staff since  
18 1966 at Purdue University.

19 Q Okay. And what type of professorship do you  
20 hold at the present time?

21 A I'm an associate professor in the Earth and  
22 Atmospheric Sciences Department and have a joint  
23 appointment with Civil Engineering.

24 Q Okay. Can you please explain briefly you

1 educational background as far as universities and  
2 degrees held?

3 A Yes. I have a bachelor's degree in Geology  
4 from Washington University in St. Louis. I also have a  
5 bachelor's degree in Geological Engineering from the  
6 same university and a master's degree in Geology;  
7 that's at Washington University. At Purdue University,  
8 I have a master of science degree in Civil Engineering  
9 and my Ph.D. is in Engineering and Geology.

10 Q Are you a registered professional engineer?

11 A Yes I am.

12 Q And in what state are you so registered?

13 A In the State of Missouri.

14 Q That is where Washington University is?

15 A That is correct.

16 Q Dr. West, are you a member of any  
17 professional societies that you participate in on a  
18 regular basis?

19 A Yes I am.

20 Q Can you give us a few of those?

21 A I'm a member of the Association of  
22 Engineering Geologists. I've served as the chairman of  
23 the North Central Section, which meets in Chicago on a  
24 regular monthly basis, and I'm a member of the

1 Geological Society of America. I'm a member of the  
2 American Society of Civil Engineers, a member of the  
3 American Society for Testing and Materials, a member of  
4 the Indiana Academy of Science and also of the American  
5 Geophysical Union.

6 Q Regarding the Geological Society of America,  
7 have you, during the 1980s, made any presentation and  
8 publications related to sanitary landfills and their  
9 geology?

10 A Yes I have. On several occasions at the  
11 annual meetings, which were held typically early in  
12 November of each year, I've given papers on sanitary  
13 land fills, typically in the Indiana area.

14 Q Can you give us some examples of those  
15 please?

16 A Yes. In 1986 I gave a paper at the  
17 San Antonio, Texas meeting and it was titled, "Fracture  
18 in Glacial Till Related to Increased Permeability and  
19 Concern for Sanitary Landfill Siting in Central  
20 Indiana". In 1985 at the Geological Society of America  
21 meeting in Orlando, Florida, I gave a paper titled,  
22 "Engineering Geology and Ground Water Considerations  
23 for Sanitary Landfills in Wisconsin-Aged Morainial  
24 Deposits of Central Indiana". And in 1985 I gave a

1 paper for the Indiana--excuse me, Indianapolis Center  
2 for Advanced Research, and that was a paper among a  
3 group of people there at that meeting, the Conference  
4 on Groundwater Monitoring and Remedial Methods. The  
5 paper was titled, "Engineering Geology of Landfill  
6 Sites Regarding Installation of Monitoring Wells". And  
7 then also in 1986 I gave a paper at the North Central  
8 Section Meeting of the Geological Society of America  
9 and that was entitled, "Hydrogeology Problems of Solid  
10 Waste Disposal Regarding Glacial Till Stratigraphy in  
11 Indiana". So those are some of the recent papers that  
12 I've given in that particular subject.

13 Q Regarding your teaching at Purdue University,  
14 do you teach any courses which are specifically related  
15 to solid waste disposal?

16 A Yes I do. Each Fall I teach a course called  
17 "Geology of Sanitary Landfills". I've taught it now  
18 for I believe five years, each Fall for five years. I  
19 also teach several other courses in the field of  
20 Engineering Geology, which is, I guess, the primary  
21 description of my area of expertise, and I teach an  
22 undergraduate and several graduate courses in  
23 Engineering Geology, which relate to groundwater  
24 contamination and solid waste disposal in some fashion

1 or another.

2 Q I'm going to hand you what was marked for  
3 identification purposes as Respondent's Exhibit 15 and  
4 ask if you can identify this.

5 A Yes I can identify that.

6 Q And what is it?

7 A That's my own resume or vitae in abbreviated  
8 form that lists my background and specialty areas,  
9 membership in professional societies and a list of  
10 selected papers on several different categories.

11 Q Okay. And this was prepared by you?

12 A That is correct, yes.

13 Q Okay. And is everything in there correct to  
14 the best of your recollection?

15 A As best as I know it right now, yes it is.

16 MR. KREBS: Okay. Your Honor, as opposed to  
17 asking the witness other questions regarding his  
18 professional background, we would instead offer into  
19 evidence Respondent's Exhibit 15.

20 MR. RADELL: I have no objection.

21 THE COURT: Number 15 is accepted.

22 (Whereupon, Respondent's  
23 Exhibit 15 was received into  
24 the record as evidence.)

1 MR. KREBS: Would you mind handing that to  
2 the Judge please?

3 BY MR. KREBS:

4 Q Dr. West, at the university, are you in  
5 charge of programs also for students who are seeking  
6 Ph.D.s and/or master's degrees, or is your teaching  
7 strictly underclass?

8 A No, I teach both graduate and undergraduate  
9 courses and I also am the research advisor for a number  
10 of students at both the masters and the Ph.D. level.

11 Q Okay. Are you familiar with the Gary  
12 Development Sanitary Landfill Facility in Lake County?

13 A Yes I am.

14 Q Okay. And can you tell us have you ever been  
15 on the site of the facility?

16 A Yes, I visited the site on three different  
17 occasions. The first time was on August 6th, 1987.  
18 The second time was on August 27th, also 1987, and at  
19 that time Jon Cooper and Ted Warner were visiting the  
20 site as well. And then the third time I visited just  
21 recently was on December 12th, 1990.

22 Q Other than the three occasions that you've  
23 discussed being present at the facility, have you been  
24 familiar with the area of Gary Development where the

1 facility is?

2 A Yes I have. I've been aware of that  
3 particular area adjacent to Lake Michigan, and I'm also  
4 quite aware of the different, what we call  
5 physiographic divisions, or the types of land forms  
6 that occur in the State of Indiana, which is an  
7 integral part of the teaching program in applied  
8 geology and civil engineering. So I'm generally aware  
9 of the regional aspects. And then I've become aware of  
10 some of the specifics of some of the site in addition  
11 to actually looking at the Gary Development Landfill.

12 Q Have you ever done a paper or a presentation  
13 regarding the area where the landfill is located, but  
14 not specifically regarding landfill?

15 A Yes I have. I had the opportunity several  
16 years ago at an organization called the Highway Geology  
17 Symposium. It was in August of 1988. And that  
18 particular conference dealt with highway construction  
19 in urban areas and on the basis of that, I looked into  
20 this particular location because the fact it's where  
21 the new interchange was constructed on the tollroad,  
22 the Indiana Tollroad System. And what had happened in  
23 the mid-1980s I think it opened--it actually, the  
24 interchange there opened in October of 1986 and what

1 happened is because to increase traffic, local traffic  
2 on the Indiana Tollroad, it was decided by the tollroad  
3 commission people to put in additional interchanges  
4 which would encourage localized traffic for people to  
5 get on at say Gary and drive to East Chicago or to  
6 encourage local traffic. And part of that development  
7 process was to build a number of interchanges. As it  
8 develops, as it turns out, one interchange is  
9 immediately to the east of the Gary Development  
10 Landfill. Well on the basis of that, I looked into the  
11 existing information on the design and construction of  
12 that landfill, and related it to the geological  
13 features of that site, which includes some aspects of  
14 the organic deposits that were there and some of the  
15 old landfill materials and just the general  
16 construction aspects of putting in the toll plaza and  
17 the exit there at Cline Avenue. That's the location,  
18 Cline Avenue.

19 Q In connection with that study that I think  
20 you said in 1988 nearby the landfill, Respondent's  
21 landfill, and in connection with your investigation of  
22 the landfill itself, do you have information as to the  
23 geology of the site, of the Gary Development site?

24 A Yes I do. I have, both on the basis of the

1 reports that were available for the tollroad  
2 construction and also available for the landfill site  
3 itself, and the geological situation is that in some  
4 areas there's about 5 feet of fill material at the  
5 surface, and then typically about 35 feet of sand. And  
6 below the sand, of the order of 50 feet of clay and  
7 then below that another 10 feet of very dense other  
8 clay material called glacial till. And at that point  
9 the bedrock is reached, which is about 100 feet deep  
10 and you hit the Racine Dolomite, typically the  
11 geological formation there is the Racine Dolomite of  
12 silurian age that occurs at that particular site.

13 Now the history of the landfill, which is  
14 revealed in the construction report for the toll plaza  
15 adjacent to it, was that basically 35 feet of the sand  
16 was removed in the process of making a gravel pit to  
17 construct the tollroad. That's the reason that the  
18 gravel pit was excavated there was for construction  
19 material for the tollroad extension. And then in  
20 addition to the sand, 30 feet of clay was excavated  
21 below that, making this pit of approximately 65 feet  
22 deep.

23 Now because of the thick nature of the clay  
24 there, there is another 35 feet of clay below the base

1 of the landfill before you reach the top of the bedrock  
2 surface, which is as I said, the silurian dolomitic  
3 rock that occurs at a depth at approximately 100 feet.

4 The water table depth was approximately 10  
5 feet below the original ground surface at the time  
6 prior to construction. And I think that's fairly  
7 typical of the area at the present time, so the water  
8 is about 10 feet down, which is about the level of the  
9 Grand Calumet River. So we have that particular  
10 aspect.

11 The landfill was begun in about 1974, after  
12 the excavation of the gravel had taken place some years  
13 before that and had filled up with water. So the  
14 gravel pit was pumped dry and then a clay lining was  
15 placed around the opening to prevent additional water  
16 from coming into it because the fact that it's 35 feet  
17 in the sandy material and the water is only 5 feet  
18 deep, there would be a tendency, obviously, for the  
19 water to come in below the 5 foot depth. And to keep  
20 the water from flowing in, to be able to pump it out, a  
21 clay liner was placed inside of the excavation. So  
22 that's the nature of the construction of the basin in  
23 which the landfill was eventually constructed.

24 Now the fact that there is 30 feet of clay at

1 the base of the landfill above the dolomite bedrock is,  
2 by the standards of the time of construction and pretty  
3 much today, is a good liner system for a conventional  
4 landfill, conventional solid waste landfill. With 30  
5 feet of clay at the base would meet the requirements  
6 certainly of the Indiana Department of Health at the  
7 time that this landfill was constructed and designed  
8 and is a sizeable thickness even by the most recent  
9 standards that we would have of having thirty feet of  
10 clay below the base of the landfill.

11 So by having a natural material to prevent  
12 downward migration, and therefore, having built the  
13 clay lining on the outside on the boundary of the old  
14 sand pit, it was able to construct the landfill such  
15 that water is kept out of the landfill itself.

16 Q Regarding the clay liner you're talking about  
17 on the sides of the landfill, have you looked into the  
18 composition of that liner and the permeability of the  
19 clay material?

20 A Yes. A study was done by Atec Associates  
21 under the direction of Gary Development as a  
22 requirement as indicated by the State of Indiana. They  
23 put four borings down along the western side of the  
24 landfill and drilled through the liner to determine the

1 nature of the liner material. At one point as I  
2 reviewed the information, there was a suggestion made  
3 that the boring should be made perpendicular to the  
4 liner system, and the liner itself is inclined because  
5 if you excavate a hole in sand, in order for the sand  
6 to have any opening, retention, you have put it on an  
7 angle. So the liner is on a slant, and consequently,  
8 the liner is not horizontal, but is inclined.

9           The borings were made perpendicular to the  
10 earth's surface, or vertical. Vertical borings were  
11 made, and they did not obviously therefore run  
12 perpendicular to the liner, although some suggestions  
13 had been made by the Indiana State Board of Health that  
14 they should be drilled perpendicular to that. I just  
15 realized looking at this, that this is virtually  
16 impossible to do with standard equipment to take soil  
17 borings perpendicular to an inclined liner. Soil  
18 borings of split spoon samples and Shelby tube samples,  
19 which were required, have to be taken very close to the  
20 vertical because it's a gravity system that gets its  
21 power by driving it vertically into the ground.

22           But at any rate, the four tests were made by  
23 Atec Associates and they obtained permeability values  
24 that were much lower than what had been the required

1 permeability of this particular liner.

2 Q Dr. West, admitted into evidence previously  
3 in this hearing, and I believe it was Respondent's  
4 Exhibit #4, was a certified copy of a settlement  
5 agreement, an agreed order in cause number N-95 between  
6 the Respondent and the Indiana Environmental Management  
7 Board dated February, 1983. And on page 5 it discusses  
8 in that exhibit specifically the borings that were to  
9 be done and says that, "If the test results show the  
10 permeability of the clay wall to be 5.0 times  $10^{-6}$   
11 centimeters per second or less, then no remedial action  
12 for the west clay perimeter wall will be required  
13 unless staff identifies a significant infiltration of  
14 liquid as discussed in subparagraph 7C."

15 So the standard here, it says it's 5.0 times  
16  $10^{-6}$  centimeters per second or less. Based upon the  
17 Atec borings and their report, how do the actual  
18 permeabilities of the clay in the liner compare to that  
19 figure in the state agreed order?

20 A Of their four tests, the numbers, which I  
21 don't have precise numbers with me in front of me, but  
22 the values range in the  $10^{-7}$  centimeters per second, to  
23 the  $10^{-8}$  centimeters per second. So considerably lower  
24 permeability than the required 5 times  $10^{-6}$ .

1           By comparing the numbers, I found that the  
2       clay tests, their permeabilities range from 8 to 208  
3       times less permeable than the requirement, so that  
4       before tests were markedly or considerably lower in  
5       permeability than the requirements, so therefore,  
6       better materials than the requirements asked for.

7           Q     Are you familiar with anything in the--that  
8       would be considered a aquifer as relates to, let's say,  
9       water wells in the area or on site wells used for  
10      production of water?

11          A     Well by definition, an aquifer is a zone in  
12      the earth that's saturated with water and has a  
13      sufficient permeability to develop a well. On the  
14      basis of that, the sand layer that is at the surface  
15      that has a water table a depth of five feet would be  
16      considered an aquifer. That is a complication, of  
17      course, in this area of Gary because of the general  
18      nature of all of the industrialization adjacent to that  
19      and the Big Calumet River on top of the other aspects  
20      is such that one would not typically think of that as  
21      an aquifer for water production for water quality  
22      because of the overall nature of the industrial aspects  
23      on the site. So aquifer, from the permeability and  
24      saturated point of view, potable water, likely no, just

1 because of the nature of the heavy industry that's been  
2 there for many, many years. But that would be what  
3 would be considered as typically an aquifer system  
4 relative to its permeability.

5 Q Is there a water producing well at the site  
6 itself to your knowledge?

7 A Yes. There is a water producing well for the  
8 Gary Development Company which is considerably deeper,  
9 extending down into the bedrock. In fact, it was  
10 extended down to a depth, according to my information,  
11 of 440 feet from the surface, which would have put it  
12 some 340 feet down into the bedrock. This is due to  
13 the fact that there was not good permeability in the  
14 rock up close to the base of the glacial material. And  
15 so it was extended below 100 feet depth until a  
16 sufficient amount of water was obtained.

17 Now that's somewhat encouraging to me as a  
18 hydrogeologist because of the fact that it tends--it  
19 indicates that the downward migration of material  
20 through the unconsolidated, through the soil material,  
21 is not great, or there would be more water at the upper  
22 part of the bedrock at a depth of 100, 110 feet  
23 possibly.

24 So--but there is a well on the site. The

1 well has a low productivity, likely in the range of  
2 less than 5 gallons per minute, so it's a marginal well  
3 as far as productivity is concerned. It also appears  
4 to be a high sulfur type well or one that has a lot of  
5 dissolved materials in it, giving it a strong taste.  
6 And my understanding is that the Gary Development  
7 Facility, it's not used as drinking water, it's used  
8 for flushed toilets and just general water in the shop.

9 Q The State's order discussing the  
10 permeabilities that they desire to exist in the liner,  
11 the wall liner at the landfill facility talked about,  
12 and I read it to you, about the concern for  
13 infiltration into the landfill. Is that a concern more  
14 than the opposite? Than liquid moving out of the  
15 landfill?

16 A Well in this particular case it's of greater  
17 concern because of the fact that the river is adjacent  
18 to the landfill and the water table is only 5 feet  
19 below the ground surface, and it's in sandy material.  
20 So it wouldn't--because you excavate a hole, the water  
21 would tend to move into the hole. So infiltration to  
22 the opening would be a very important consideration.  
23 Therefore, in order to insure the fact that the trash  
24 isn't saturated with water from the surrounding

1 terrain, it would be necessary to build a liner to  
2 prevent the water from flowing inward. So that is the  
3 major concern for this site, is to prevent surrounding  
4 water to flow into the landfill to saturate it, which  
5 would tend to generate more leachate when you get more  
6 water mixed with it and by dissolving material in the  
7 solid waste. And you want to minimize that particular  
8 amount volume of leachate, so you would prevent  
9 infiltration. That's the reason, yes.

10 Q Does this site have what are known as  
11 monitoring wells regarding ground water?

12 A Yes. It has four monitoring wells on each  
13 side of the landfill: On the north side and on the  
14 east side, south side and on the west side it has the  
15 four monitoring wells that were placed around the  
16 landfill boundary. They are located outside of the  
17 clay liner so that they would measure the water  
18 that's--it's away from the landfill; either water that  
19 got away from the landfill or exists away from the  
20 landfill. So it's measuring the surrounding terrain,  
21 not, obviously, the water within the landfill,  
22 landfilled material itself.

23 Q Are those monitoring wells actually sampled  
24 and the sample analyzed for certain types of chemicals?

1           A     Yes. According to the permit that the Gary  
2     Development Landfill is operating under, which dates  
3     back I think to the early 1980s, they are sampling it  
4     on a quarterly basis, and the samples are analyzed for  
5     the four constituents which were required under their  
6     regulations. And so they have been, yes, have been  
7     tested on a quarterly basis.

8           Q     Do you know who does the analysis for the  
9     parameters?

10          A     I think it's the Lake County Health  
11     Department if I recall. That's--I don't know. Perhaps  
12     I don't know. It's a facility, it's a public facility  
13     in the area.

14          Q     Okay. Have you reviewed the analytical  
15     results from those wells that are done for 1990? For  
16     this year?

17          A     Yes I have.

18          Q     And do you have an opinion as to what they do  
19     or do not show?

20          A     Yes I have an opinion.

21          Q     What is your opinion?

22          A     I am impressed by the fact that the chloride  
23     content is really quite low in the wells. The chloride  
24     is--if chloride is--can be an indicator of movement of

1 leachate material and the chloride is in I think the 10  
2 to 15 parts per million range. So that is encouraging  
3 in that it tends to suggest that there appears to be no  
4 indication of chloride leachate effects that are moving  
5 through the liner. It has a relatively high total  
6 dissolved solids, but that would be indicative of  
7 probably the background ground water in this particular  
8 industrial area, and so that doesn't appear to be any  
9 major consequence on the basis of this particular site.

10 Q Why is chloride an important parameter to  
11 look for regarding a sanitary landfill?

12 A Well although chloride in itself typically is  
13 not a problem material, although usually the standard  
14 for chloride is something like 250 parts per million or  
15 milligrams per liter, it is a secondary material and it  
16 is an indicator of other movement of leachate material  
17 in some cases. The reason being is that chloride has a  
18 very high solubility; it is easily dissolved in water.  
19 And secondly, it's a very abundant, profuse amount of  
20 material that is present in garbage and trash and it is  
21 not easily removed by passing through the soil. So  
22 consequently, even though the chloride might not be the  
23 ion that you would be the most concerned about as far  
24 as a health aspect is concerned, it is a good

1 indicator. It is a good target material indicating  
2 that contamination is taking place if you should see a  
3 very high elevated value for the chloride content.

4 Q And based upon your review of the laboratory  
5 analysis for that chemical and the others, is it your  
6 opinion that you don't see really any migration of  
7 leachate?

8 A Based on the information that I have of those  
9 three monitoring wells--and I see now it is the Lake  
10 County Health Department Laboratory--based on that  
11 information, I see no indication of leachate migration  
12 outside of the clay liner based on this data.

13 Q Dr. West, when you were at the site, how long  
14 did you spend out there? Can you recall approximately?

15 A This last time when I was there on the 12th  
16 of this month, I was on the site for approximately two  
17 and one-half hours. I spent the first part of the  
18 period talking to Mr. Larry Hagen and--because it had  
19 been several years since I was on the site and I wanted  
20 to talk with him to get some background information  
21 that had occurred since I had been there last, and then  
22 the last hour and a half I'd say was spent looking at  
23 the landfill on foot and by vehicle, touring the whole  
24 landfill and seeing what the situation was. So I would

1 say an hour and a half to two hours possibly spent  
2 actually on the landfill surface itself and walking  
3 around the adjacent location.

4 Q During the other times you were there, which  
5 I think were 1987 on two occasions you indicated, did  
6 you spend similar amounts of time on both of those  
7 occasions, or do you recall?

8 A I think the first time I was there I even  
9 spent a longer period of time on the landfill itself,  
10 maybe an hour, an hour and a half longer. So perhaps  
11 something like 3 hours looking around the first time,  
12 because my being there the first opportunity I wanted  
13 to spend some time carefully looking at things. The  
14 second time I was there I spent less time because a  
15 portion of the visit was spent discussing general  
16 aspects with Mr. Cooper and Mr. Warner, and probably  
17 was only on the landfill maybe 45 minutes or so.

18 Q Okay. On December 13th, I believe the day  
19 was you gave when you were out there and when you  
20 walked the site, was the site operating as a solid  
21 waste disposal facility?

22 A I think it was December the 12th, which would  
23 have been Wednesday of last week. I--the facility was  
24 not operating. The only--there was some activity going

1 on. There was a piece of equipment, a bulldozer  
2 pushing soil around--clay material was being pushed  
3 over the top of a portion of the landfill. There was  
4 no filling operation, there was no trash coming into  
5 the landfill. But there was an activity of placing  
6 cover over a portion of the landfill.

7 Q Okay. What is the present status of the  
8 facility as far as from an operational standpoint?

9 A At the end of August of 1989, the landfill  
10 closed its operation as far as accepting solid waste  
11 material and has not accepted any waste since that  
12 particular time. So for the last 18 months or so it's  
13 been in the process of having clay brought in from out  
14 off the site because there is no more availability of  
15 excavating clay on the site on the present  
16 circumstances, and so clay is being brought in from off  
17 site and deposited on top of the landfill and then  
18 moved around with earth moving equipment in order to  
19 complete the needed cover for the landfill.

20 Q Do you know what type of cover the state is  
21 requiring?

22 A My understanding the state is going require  
23 two feet of clay over the top of the conventional part  
24 of the landfill, which would be that consisting of the

1 conventional waste and trash and garbage material. I  
2 also understand that through the special portion of the  
3 landfill in which flyash was mixed with the trash and  
4 allowed to harden, that there is an agreement which  
5 allows for only one foot of clay to be required over  
6 that particular portion of the landfill. So that is my  
7 understanding based on the two different kinds of  
8 materials, a different amount of clay would be placed  
9 over the top of those.

10 Q The area where you mentioned flyash was mixed  
11 with waste and allowed to harden, approximately what  
12 percentage, if you know, of the site is that area? The  
13 flyash area let's call it.

14 A Well it's--the flyash area is located on the  
15 eastern part of the site, and I would estimate it to  
16 make up perhaps about a fifth of the site, so say about  
17 20 percent.

18 Q When you were at the landfill recently, did  
19 you actually personally observe the clay, piles of clay  
20 and equipment moving clay cover onto the facility?

21 A Yes I did. There was a pile of clay that was  
22 being moved around. Although it was a little bit wet,  
23 the dozer was working that day and was pushing the  
24 material around. I could see an area where the clay

1 had been recently placed in, it looked to be in about  
2 the east central part of the landfill. And I could  
3 also observe other areas where clay was yet to be  
4 placed, more to the western side of the landfill.

5 Q Okay. As an expert, did you view anything at  
6 the landfill facility recently when you were out there  
7 that you considered to be a problem?

8 A Yes. I would say that the area of the north  
9 pit is at least a strong concern, perhaps a problem in  
10 that it is left unconstructed. It is a sizable pit  
11 that is along the northern boundary of the landfill  
12 that I estimated to be about perhaps 900 feet long, 40  
13 feet deep, and approximately 150 feet wide, such that  
14 by rough calculation it turns up to be maybe 200,000  
15 cubic yards of material that was still--this depression  
16 in this large pit that's located along the side. My  
17 concern for that is is that it's clear that water is  
18 running off of the Vulcan material site to the west  
19 that is able to drain onto the northwest corner of the  
20 landfill. And although there is a soil dike that's  
21 been constructed there, it's able to seep through there  
22 or possibly top that dike and pour into that pit and  
23 collect water down into this pit of area where the  
24 trash has not been placed. Because of that, water

1 accumulates in that particular pit and has to be pumped  
2 out of there to prevent it from accumulating too much.

3 So I saw that as a problem, the fact that the  
4 Vulcan material site has a culvert that drains  
5 immediately into the area adjacent to that and runs  
6 into that pit. And that is a concern to me that that  
7 area has not been filled in, that solid waste has not  
8 been placed in that particular large pit.

9 Q What is Vulcan Chemical or Vulcan materials?  
10 Can you explain what that is?

11 A I guess Vulcan Chemical is a proper name for  
12 it originally. It has now changed to AMG Resources,  
13 which has recently bought out the Vulcan site.

14 It is a scrap metal facility that removes tin  
15 and removes other metals from scrap iron and scrap  
16 steel and processes it by adding acids and other type  
17 of corrosive materials to the metal to remove the trace  
18 metals from it. In the process of that, they have a  
19 lot of scrap metal that's sitting around on the eastern  
20 part of their site, which is right adjacent to our  
21 particular location at Gary Development site. In fact,  
22 along the western part of the site they have some scrap  
23 metal that sits directly into a drainage ditch and is  
24 in contact with water on the Gary Development site and

1 clearly could obtain metals from that scrap and get  
2 onto the Gary Development site in the process. So my  
3 concern is is the fact that it is adjacent to the  
4 landfill, it is a higher elevation than the drainage  
5 ditch and the pit itself. Water can run off of that  
6 particular salvage yard and get into the waters on the  
7 site of Gary Development.

8 Q You termed the phrase, I guess, or you termed  
9 the existing circumstance out there as a pit.  
10 Basically, can you more describe--what is this? Is  
11 this something that is dug? Is this something that is  
12 remaining because waste was not disposed of?

13 A Yes, that's the nature of it. The waste was  
14 not disposed along the north wall of the landfill.  
15 This was done purposely because of the fact that  
16 permission was not obtained from the State of Indiana  
17 to fill that particular part of the landfill.

18 The procedure was to place clay up against  
19 the sand, exposed sand sides of the landfill, of the  
20 old sand and gravel pit. Now a small amount of clay  
21 had been placed there, but not the final clay thickness  
22 had been done. And my understanding is is that full  
23 permission to fill in that particular pit was withheld  
24 from Gary Development because of--there was no decision

1 made or no judgement made as to how that should be  
2 accomplished as far as the Department of Environmental  
3 Management of the State of Indiana. So consequently,  
4 that area was left unfilled and left that way at the  
5 end of the process of the Gary Development site. So  
6 when they closed in August of 1989, they had not placed  
7 material in that particular pit area because they were  
8 restricted from doing such by the regulations of the  
9 State of Indiana, or at least lacking permission from  
10 the state to do so.

11 Q Do you know whether at that time Gary  
12 Development requested a variance or authority to  
13 complete that area from the Indiana Department of  
14 Environmental Management?

15 A Yes. It's my understanding that shortly  
16 before they actually closed in August of '89 they did  
17 make a request for a variance to proceed to fill that  
18 pit in with solid waste material. But having a  
19 variance such that they would fill it under the rules  
20 existing prior to August of '89, and not under the  
21 regulations which have since come into account. So  
22 that would have been a period of perhaps almost 18 to  
23 20 months ago that this request for variance was made,  
24 but there's been no decision forthcoming from the State

1 of Indiana Department of Environmental Management since  
2 that time.

3 Q When you were out at the landfill recently,  
4 did you review any inspection reports that were  
5 apparently done by the Indiana Department of  
6 Environmental Management on this site?

7 A Yes I did.

8 Q Okay. Do you recall what type of inspection  
9 reports those were?

10 A Yes. Those are the latest edition of the  
11 inspection reports that are used for conventional  
12 standard solid waste landfill inspections. They're the  
13 variety that is used for all the other conventional  
14 landfills in the State of Indiana. I noted with  
15 interest because those particular forms have gone  
16 through several additions over the last year or so and  
17 so some of the details are different from one month to  
18 the next it appears. But I looked at those carefully  
19 and I noted that they were the conventional solid waste  
20 regulation forms that were used.

21 Q Did the state inspectors at all, on reviewing  
22 those reports, discuss the covering of the landfill  
23 with the clay material?

24 A Yes. That was an item that they did list.

1 They indicated that the clays were being added to a  
2 portion of the landfill, that the clay cover was being  
3 placed over a portion of it. They made a note of the  
4 fact that they could see that additional clay was  
5 needed further to the western part of the site. There  
6 was a notation made that part of the area did not have  
7 sufficient clay on it and it needed to have the two  
8 feet of clay placed. And there was also a statement  
9 relative to the flyash material; the fact that a  
10 sizeable portion had flyash at the surface and needed  
11 to be covered as well. So that was part of the  
12 evaluation that was made, yes.

13 Q In reviewing the inspection reports that you  
14 looked at at the landfill facility a week or so ago,  
15 did you see any reports where the state had inspected  
16 this facility as a resource conservation and recovery  
17 site?

18 A No. There was no indication that this was  
19 reviewed from the RCRA point of view. It was strictly  
20 conventional solid waste landfill evaluation.

21 Q Dr. West, could you explain to me briefly  
22 what the difference is--you indicated that I think you  
23 classified yourself as a hydrogeologist. What is the  
24 difference between a hydrogeologist and a hydrologist?

1           A     Yes. The hydrogeology is one of the areas  
2 that I operate in; one of my areas of expertise. I  
3 also mentioned engineering geology, which is a  
4 combination of geology and engineering construction.

5                 Relative to the two terms you mentioned, a  
6 hydrogeologist is a geologist who works with water  
7 typically, almost to a great extent, groundwater. Does  
8 a lot of work with groundwater studies. The term  
9 hydrology or hydrologist more often or typically is a  
10 civil engineering person and almost most of their work  
11 has to do with surface water. So we have a distinction  
12 from the hydrologist, who is more of a surface water  
13 person, typically a civil engineer, and a  
14 hydrogeologist, who is a geological person, who  
15 typically does more groundwater.

16                Now there is a little bit of an overlap  
17 between them, but the specific areas are still quite  
18 clear. The hydrogeologist as a geological person,  
19 tends to know a great deal more about the subsurface,  
20 the movement of water through the ground, whereas  
21 hydrologists deal more with floods and flood routing  
22 and being able to build structures sufficiently high  
23 that they don't get flooded out and deal with the  
24 aspects of flooding and flood plane management, things

1 of that sort. So there is a distinction between the  
2 two.

3 Q The problem that you've discussed in your  
4 opinion, the problem at the site, the pit or the hole  
5 where waste was not filled, do you have an opinion as  
6 to how that could be handled from an environmental  
7 standpoint, that in your opinion, would be  
8 environmentally sound?

9 A Yes I do. I have an opinion on that.

10 Q And what would that be?

11 A I think the primary need is to insure the  
12 fact that the clay and the liner on the north side is  
13 sufficiently thick to keep water from coming out into  
14 the pit, and equally sufficiently thick to stop water  
15 from migrating from the landfill to the liner and  
16 getting out into the surrounding terrain. So it's  
17 necessary to have a properly compacted liner placed in  
18 that area, really pretty much similar to the liner that  
19 has been placed in other parts of the landfill. I  
20 think with today's standards we can compact the clay  
21 sufficiently so that you would get the low permeability  
22 effects. There are some construction techniques that  
23 would tend to insure the fact permeability would be  
24 quite low, and that would be how I would go about

1 constructing it.

2 In order to do that, of course, you have to  
3 drain the water out of it, you have to find a way to  
4 keep the water out of it. It's very difficult to  
5 construct things when you have water accumulating in  
6 them, in the construction business it's called  
7 operating in the dry, which means you've got to get the  
8 water out before you can do good construction work. So  
9 consequently, there would be a combination of keeping  
10 the water from the Vulcan materials area from washing  
11 into that hole, and also, from building up a compacted  
12 clay liner to insure the fact that water will not  
13 neither seep into it, nor seep away.

14 Q Dr. West, do you have any economic interest  
15 in Gary Development Company, Inc?

16 A No I don't.

17 Q You're not an employee of the company?

18 A No I'm not.

19 Q Okay. You are--indicated you are employed by  
20 Purdue University. Do you also do private consulting  
21 work?

22 A Yes. I have been an active private  
23 consultant essentially since I received my Ph.D. in  
24 1966, so I've been actively involved in different

1 aspects of construction related geology for lo 25 years  
2 now. I think it's particularly significant in my own  
3 field of applied geology because it helps me to direct  
4 graduate students in areas of research, and it helps me  
5 to determine the areas where research needs to be done  
6 and leads me to research funding and things of that  
7 sort. So it's been an extremely good marriage over the  
8 years for me to be related directly to construction  
9 aspects.

10 And for the last 15 years, this has included  
11 sanitary landfills. I have not exclusive worked  
12 neither for nor in opposition to sanitary landfill  
13 construction. I have, on numerous occasions worked for  
14 citizens groups and tried to point out problems with  
15 proposed landfills and with the approach that the best  
16 way to reduce the problems of landfills is to make sure  
17 the construction is done as best as possible. And I  
18 worked for landfill firms themselves, so I have not  
19 been exclusively either pro or con as far as the  
20 landfill construction business is concerned. And  
21 consequently, I feel that it's been a valuable  
22 contribution insofar as what I've been able to  
23 contribute in the construction aspect, and also of  
24 course, things I've learned for my students to be able

1 to work on these projects.

2 Q With these private clients, do you charge  
3 them on a results type fee, or do you charge them on an  
4 hourly basis regardless of the result?

5 A I charge then on an hourly basis that's not  
6 related to the results. I've had a couple of difficult  
7 times, I must say, with a small country attorney one  
8 time who felt that I should only get paid if he won the  
9 case. And I told him, well that may be the way that  
10 attorneys work, but engineers and geologists don't work  
11 that way. And consequently, if they couldn't give me a  
12 retainer, I would not be interested in the project.  
13 And so fortunately we came to an agreement on that and  
14 I didn't have to wait six months or nine months to see  
15 what the outcome of the case was going to be.

16 Q In addition to private clientele, have you  
17 done any consulting work for any governmental entities?

18 A Yes I have. I have worked for some  
19 governmental entities, yes.

20 Q And can you tell us which ones?

21 A I have done some projects which basically I  
22 would assume would relate back to the federal  
23 government, but through an independent firm that wanted  
24 a review of some design projects, so I'd say for the

1 U.S. Government I've done some work.

2 Q Okay. Have you done anything for the Indiana  
3 Department of Natural Resources?

4 A Yes I have. I have had a research contract  
5 or research related project with the Indiana Department  
6 of Natural Resources, the Division of Reclamation for  
7 about five years now. This turns out to be a very  
8 closely related area, strangely enough, to sanitary  
9 landfills is the reclamation of old strip mines in  
10 southern Indiana. The groundwater contamination  
11 problems from strip mines and mine processing wastes is  
12 very similar in a way to what happens with sanitary  
13 landfills because you get movement of heavy metals and  
14 the movement of cations and things and sometimes  
15 hydrocarbons, which is related to the same geological  
16 detail. And of course the background of subsurface  
17 work is drilling and exploration and developing  
18 geological detail. And the two of them go very closely  
19 together. Yes.

20 MR. KREBS: Your Honor, may I have a moment?  
21 I think I'm finished with this witness. I wanted to  
22 review my notes if I could.

23 THE COURT: Yes.

24 (Pause.)

1 THE COURT: Dr. West, when your testimony has  
2 finished, would you consult with the court reporter and  
3 assist her with any spellings she may need?

4 THE WITNESS: Certainly.

5 THE COURT: Such as Racine Dolomite, silurian  
6 age.

7 THE WITNESS: Yes I will.

8 THE COURT: We want to make sure these are  
9 spelled correctly for the record. Cations.

10 THE WITNESS: Silurian is an old English name  
11 that comes out of England.

12 MR. KREBS: Your Honor, that's all the direct  
13 questions we have at this time.

14 THE COURT: Mr. Radell?

15 MR. RADELL: Yes.

16 CROSS-EXAMINATION

17 BY MR. RADELL:

18 Q Dr. West, are you familiar with the state and  
19 federal laws and regulations for hazardous waste?

20 A Yes, to some extent I am.

21 Q Have you designed any hazardous waste  
22 landfills?

23 A Yes, I've been involved in some of that. I  
24 was instrumental in working through a Part B

1 application for hazardous waste landfill in the  
2 mid-1980s. I have reviewed a number of hazardous waste  
3 landfill designs. I have contributed to some of them  
4 as well.

5 Q Can you say that the Gary Development  
6 Company's landfill meets--was designed to accept  
7 hazardous wastes and to comply with federal and state  
8 laws for hazardous waste landfills?

9 A Well it would certainly be under the current  
10 conditions that we have at the present time. The  
11 regulations for hazardous waste landfills has changed  
12 markedly over the last 5 or 6, 10 years. But I don't  
13 believe it was designed to be a hazardous waste  
14 landfill. My understanding is that they were under the  
15 assumption that it is a conventional landfill.

16 Q Uh-huh. Does the Gary Development Landfill  
17 have a double liner underneath it?

18 A Well double liner systems have been involved  
19 for hazardous waste landfills, perhaps since the 1980s.  
20 Of course this landfill predates that particular time.  
21 But double liner systems are typical of landfills and  
22 in fact, they are now becoming more apparent when we  
23 get conventional landfills, so that the landfill design  
24 procedure has certainly gotten more stringent as time

1 has gone on. We have, you know, what I see in the  
2 landfill business, you have a lot of landfills that  
3 were constructed a number of years ago and under  
4 different regulations and there's really no way to  
5 retrofit a situation of that sort.

6 Q Uh-huh.

7 A So I would say it does not have a double  
8 liner system in it. No, it doesn't.

9 Q Okay.

10 A It has a clay liner. It has a very sizable  
11 base clay liner. The sides are obviously not as thick  
12 as the base is though.

13 Q Uh-huh. Does it have any kind of a leachate  
14 collection system?

15 A No, it doesn't have a leachate collection  
16 system.

17 Q Okay. Regarding the groundwater monitoring  
18 system in place at the Cary Development Landfill, do  
19 you know if that meets the RCRA hazardous waste  
20 requirements for groundwater monitoring systems?

21 A I would assume that it would not. The RCRA  
22 requirements are typically much more stringent than  
23 they are for conventional landfills, and this has the  
24 monitoring system that was required of a conventional

1 landfill back in the early 1980s. So it would be a  
2 surprise if it would qualify for that, yes.

3 Q Are you familiar with the ways in which the  
4 existing groundwater monitoring wells were actually  
5 constructed?

6 A Well I am aware of the fact that they were  
7 placed, as I say, I think in the early 1980s and they  
8 were done sort of in the fashion that was typical of  
9 monitoring wells at that particular time. I know of a  
10 number of landfills when this actually occurred.

11 In the State of Indiana, you find that the  
12 regulatory agency and the landfill operators sort of  
13 grew up together in their educational process, and so  
14 they would be somewhat typical of early monitoring  
15 wells that were put in conventional landfills in the  
16 State of Indiana.

17 Q So do you know whether those wells were  
18 constructed in a manner so that they would currently  
19 meet RCRA hazardous waste regulations for monitoring  
20 wells?

21 A I'd assume that they would not meet the  
22 regulations. The regulations for monitoring wells  
23 today are much more stringent than they were in the  
24 1980s.

1           Q     Are you aware if any hazardous constituents  
2     have ever been tested for in the groundwater at the  
3     Gary Development Facility?

4           A     I know that the State of Indiana took some  
5     split sample testing out of the monitoring wells in the  
6     past. I don't recall what the results of that would  
7     happen to be.

8           Q     Uh-huh.

9           A     And if--I assume they would have tested for  
10    some things which would perhaps be more similar to the  
11    hazardous waste list that is currently tested for  
12    today.

13          Q     Uh-huh.

14          A     But I don't happen to remember the results  
15    from that.

16          Q     Okay. Based upon your familiarity with the  
17    Gary Development site, can you express an opinion  
18    whether or not any hazardous constituents have migrated  
19    into the groundwater from that facility?

20          A     I have no knowledge that any have. But as I  
21    say, I'm limited to the information from the four  
22    monitoring wells, which were done on a quarterly basis  
23    there.

24          Q     Regarding the existing barriers that are in

1 effect now for keeping water from migrating into and  
2 out of the landfill, would you say that the existing  
3 barriers are effective in keeping water, stopping water  
4 from migrating in and out of the landfill, or other  
5 liquids?

6 A Well they appear to be, perhaps for the north  
7 wall. There is some indication along the north wall,  
8 which has not been completed of course, that there is  
9 some groundwater seepage that's coming into that.

10 I know a statement was made in one of the  
11 review reports that they had observed leachate coming  
12 out of the side of the pills of the landfill and the  
13 inspector made some comment that that indicated that  
14 the clay liner wasn't working. And I had to scratch my  
15 head at that, because that's not where the clay liner  
16 is. The clay liner is below the ground, not above the  
17 ground. So if you see leachate coming out of the  
18 landfill, that doesn't mean that the clay liner is not  
19 working. I don't know how one would determine that the  
20 clay liner is not working because the clay liner is all  
21 covered up. Only the fact that was drilled in four  
22 places and it's permeability turned out to be one  
23 hundredth or one-two hundredth less than what its  
24 requirement was, which would suggest that it operates

1 as though it was 100 times thicker than if the  
2 landfill--than the liner would have had to be under the  
3 specific requirements.

4 Q Are there any types of piezometers or other  
5 wells that would locate both inside and outside the  
6 fill on either sides of the existing barriers that  
7 would enable one to determine the comparative levels of  
8 water in and outside the landfill?

9 A Well yes. One could put a piezometer inside  
10 of the landfill and determine what the water level is  
11 in the trash material. That would tell you what the  
12 water level is. It doesn't necessarily tell you that  
13 it's moving anywhere, it just tells you that there's a  
14 gradient from inside the landfill to the outside. But  
15 a gradient does not necessarily determine that you have  
16 movement; you have a potential for movement. If the  
17 clay is doing its job, then the difference would still  
18 persist and the water would get out of the landfill by  
19 some other method, perhaps by evaporation or some other  
20 procedure whereby the water would disappear without  
21 going through the liner. So the fact that you show a  
22 difference in water level inside and outside the liner  
23 doesn't show that it's necessarily moving through the  
24 liner. It only shows that you have a gradient in that

1 direction.

2 Q Are there any such piezometers in place now  
3 inside the fill?

4 A Not to my knowledge. I don't know that it  
5 was ever suggest that they be placed there. I'm not  
6 aware of that.

7 Q Mr. Krebs had alluded earlier to some reports  
8 by the Lake County Health Department Laboratory  
9 regarding--you referred to the chloride levels that  
10 were taken from these reports. One report that was  
11 dated November 14, 1990 states that, "no samples were  
12 taken from the west wall area because it was flooded."  
13 I was wondering if you had any knowledge how that area  
14 came to be flooded and how such a flooding might affect  
15 leachate passing into or out of the landfill.

16 A Well now that has indicated both for the  
17 November 14th and the August 3 test that the west  
18 monitoring well was not measured because it was  
19 flooded. And I happened to observe that area on the  
20 western side of the landfill. It still has a  
21 considerable amount of water sitting in that particular  
22 ditch. In fact, that was the reason why the delay took  
23 place before they could drill the liner on the west  
24 side of the landfill because the water has persisted

1       there for some time. It runs off the Vulcan site and  
2       ends up in that particular ditch.

3               The problem obviously is is the water builds  
4       up in there and it doesn't have a good way to drain  
5       away. It is prevented from draining to the south and  
6       toward the river, and in fact, you don't want it to  
7       drain to the north into the pit. So there's an attempt  
8       made to keep the water in that particular location. I  
9       would think there needs to be a long term, or maybe  
10      it's a short term solution of removing the water from  
11      that particular ditch and get it to drain away from  
12      there, hopefully into the Grand Calumet River.

13             Q     Uh-huh. Are you familiar with the RCRA  
14      hazardous waste inspections which the Indiana  
15      Department of Environmental Management conducted at  
16      Gary Development Company on April 26, 1988 and June 6,  
17      1990?

18             A     Who was the inspector on that?

19             Q     Ted Warner.

20             A     I recall seeing a report that indicated that  
21      Ted Warner had made an inspection on the site and I  
22      recall something to the effect of him making a  
23      statement in his report that this didn't meet hazardous  
24      waste requirements for a landfill. So I have seen

1 that, yes.

2 Q Alright. And regarding Cause 53, the state  
3 agreed order, are you--do you know whether or not that  
4 dealt with hazardous waste, or was that just for solid  
5 waste that was non-hazardous?

6 A I think that order dealt with conventional  
7 solid waste material and not with hazardous waste.

8 MR. RADELL: Alright. Thank you.

9 THE COURT: Mr. Krebs, redirect?

10 MR. KREBS: I have no redirect, Your Honor.

11 THE COURT: Well Dr. West, it appears that  
12 your testimony is at an end. Thank you very much for  
13 coming. You are excused and you may step down.

14 THE WITNESS: Thank you, Judge Greene.

15 (Whereupon, the witness was  
16 excused.)

17 THE COURT: Now then, if there are other  
18 witnesses that are here, if you have anything further  
19 you wish to do.

20 MR. KREBS: Yes Your Honor, there is. And I  
21 decide whether to do this or not, I'm going to, going  
22 to. I guess this would be considered an admission  
23 against interest, so look at these for awhile.

24 I have two documents here where are recent,

1 last this year. Both of them are signed by the  
2 Commissioner of the Indiana Department of Environmental  
3 Management, Kathy Prosser (ph), and both relating to  
4 Gary Development. They are--one is an emergency order  
5 of the Commissioner, which is dated October 16th this  
6 year, the other is an agreed order signed by the  
7 Commissioner on October 11, 1990. And I offer these  
8 into evidence even though these documents do discuss--  
9 one of them discusses a fine being levied by the state  
10 against my client, one of them discusses the  
11 possibility or an allegation of a leachate problem.

12 The purpose that I am offering these  
13 documents into evidence is the fact I think they will  
14 show the State of Indiana considers this facility to be  
15 a "sanitary landfill" and not a RCRA facility. And  
16 that's how it has been classified by the State of  
17 Indiana.

18 THE COURT: I have it you are offering these.  
19 Mr. Radell?

20 MR. RADELL: I would like a chance to review  
21 them if I may.

22 MR. KREBS: In fact, if he would--if we would  
23 want to decide on this tomorrow morning, that's fine  
24 with me also. If he needs more time to look at them.

1 THE COURT: Well yes, and we may have that  
2 time since you don't have another witness ready to go.

3 MR. KREBS: Alright. The next witness is  
4 subpoenaed for 9:00 a.m.

5 THE COURT: Yes.

6 (Pause.)

7 MR. RADELL: Mr. Krebs, we had a  
8 Kathy Schmidt the last time we met. Could this be the  
9 same as the original Prosser? Did she marry or  
10 something? Unusual to have the same--

11 THE COURT: I don't believe so.

12 MR. KREBS: I believe Katherine--or a Schmidt  
13 is a geologist in the water department for IDEM.

14 THE COURT: Carol Schmidt.

15 MR. RADELL: Carol Schmidt.

16 VOICE: Carol Schmidt is the chief geologist  
17 at the IDEM. Kathy Prosser is the new head of the  
18 section, recently appointed by--

19 THE COURT: Thank you.

20 MR. KREBS: Perhaps it would be appropriate  
21 for me to identify these now for the record?

22 THE COURT: Yes.

23 MR. KREBS: For tomorrow. There will be one  
24 document so marked by the court reporter as

1 Respondent's Exhibit 16. Here is a certification of  
2 authentication of public records on the front and the  
3 document is the emergency order of the Commissioner,  
4 with a date on the third page of October 16, 1990.

5 (Whereupon, Respondent's  
6 Exhibit 16 was marked for  
7 identification.)

8 MR. KREBS: The second document is  
9 Respondent's Exhibit #17, also has a certificate of  
10 authentication of public records on the front, and it  
11 is a three-page document that is entitled, "RE: Order"  
12 and has a signature by the Commissioner of the Indiana  
13 Department of Environmental Management, with the date  
14 of October 11, 1990.

15 (Whereupon, Respondent's  
16 Exhibit 17 was marked for  
17 identification.)

18 MR. RADELL: Your Honor, I think I'm going to  
19 object to the admission of these documents just based  
20 on irrelevancy, because neither of these has to do with  
21 whether or not the facility is a RCRA hazardous waste  
22 facility or a solid waste facility. One deals with  
23 violations of the Water Pollution Control Act, and the  
24 other the Clean Air Act, and neither document has any

1 relevancy to whether or not hazardous waste is indeed  
2 in this landfill.

3 THE COURT: Well since I haven't had a look  
4 at them myself, what I will do is--

5 (Pause.)

6 THE COURT: Does somebody have copies of  
7 these, or is this the only copy?

8 MR. KREBS: I beg your pardon?

9 THE COURT: Are there extra copies of these  
10 two documents?

11 MR. KREBS: Yes. Yes.

12 THE COURT: And Mr. Radell has a copy of  
13 each?

14 MR. RADELL: Yes.

15 THE COURT: Well I'll allow them. Number 16  
16 and 17 for the Respondent are admitted.

17 (Whereupon, Respondent's  
18 Exhibits 16 and 17 are  
19 received into the record as  
20 evidence.)

21 MR. RADELL: Which is 16 and which is 17?

22 THE COURT: 16 is the October 29, 1990  
23 emergency order admission.

24 MR. RADELL: Okay.

1 THE COURT: And number 17 is the RE: Order.

2 Off the record a moment.

3 (Whereupon, the reporter went

4 off the record as requested.)

5 THE COURT: On the record please.

6 The next witness having been subpoenaed for  
7 9:00 tomorrow morning, and the hour growing late here,  
8 we will recess for the day until 9:00 tomorrow morning.

9 (WHEREUPON, THE HEARING WAS ADJOURNED AT

10 3:30 P.M. TO BE RECONVENED ON TUESDAY,

11 DECEMBER 18, 1990 AT 9:00 A.M.)  
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STATE OF ILLINOIS )  
 ) SS.  
COUNTY OF C O O K )

I, ANNE I. MAZIORKA, a Notary Public within and for the County of Cook and State of Illinois do hereby certify:

That previous to the commencement of the examination of the witnesses, the witnesses were duly sworn to testify the whole truth concerning the matters herein;

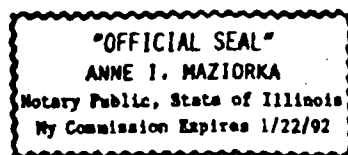
That the foregoing transcript was reported to me by electronic audio sound recording, was thereafter reduced to typewriting under my personal direction and constitutes a true record of the testimony given;

That the said hearing was taken before me at the time and place specified;

That the hearing was adjourned as stated herein;

That I am not a relative or employee or attorney or counsel, not a relative or employee of such attorney or counsel for any of the parties hereto, not interested directly or indirectly in the outcome of this action.

IN WITNESS WHEREOF, I do hereunto set my hand and affix my seal of office at Chicago, Illinois, this 31<sup>st</sup> day of December, 1990.



*Anne I. Maziorka*  
ANNE I. MAZIORKA  
Notary Public, Cook County, IL

My Commission expires 1/22/92.